

REMARKS

Reconsideration of this application as amended is respectfully requested. An RCE accompanies this Amendment.

Claims 23 and 33 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,016,072 of Greiff ("Greiff"). Claims 23, 24, 30, and 31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.K. patent application number 2,275,787 of Pember et al. ("Pember").

Claims 25-29 stand rejected under 35 U.S.C § 103(a) as being unpatentable over Pember and U.S. Patent No. 5,959,760 of Yamada et al. ("Yamada"). Claim 33 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Pember, Yamada, and U.S. Patent No. 5,739,941 of Knipe et al. ("Knipe").

Claim 33 has been objected to.

Claim 106 had been allowed.

Claims 23, 25, and 27 have been amended. Claims 24, 26, and 33 have been canceled. New claims 120 and 121 have been added. Applicants respectfully submit that the amended and new claims are supported by the specification and drawings and that no new matter has been added. Applicants reserve all rights with respect to the applicability of the doctrine of equivalents.

In objecting to claim 33, the Examiner has stated that there is no antecedent basis for "the two or more torsion beams." Applicants have canceled claim 33 and added new claims 120 and 121, which applicants respectfully submit do not have an antecedent basis problem.

The Examiner has rejected claims 23 and 33 under 35 U.S.C. § 102(b) as being anticipated by Greiff. The Examiner has stated the following:

Greiff teaches a center stage (see figure 3) supported in a frame 32 by double torsion flexures 36, 38 which are substantially parallel, where the frame is supported by a pair of flexures 20, 22.

(Office Action 5/10/2005, pg. 2)

Applicants respectfully submit that amended claim 23 is not anticipated by Greiff under 35 U.S.C. § 102(b). Applicants respectfully submit that Greiff does not disclose the following limitations of amended claim 23:

a first blade coupled to a bottom of the central stage, the first blade residing beneath a bottom plane of the central stage and extending perpendicularly from the bottom plane of the central stage;

a second blade coupled to a bottom of the movable stage, the second blade residing beneath a bottom plane of the movable stage and extending perpendicularly from the bottom plane of the central stage.

(Amended claim 23).

Claim 33 has been canceled.

The Examiner has rejected claims 23, 24, 36, and 30 under 35 U.S.C. § 102(b) as being anticipated by Pember. The Examiner has stated the following:

Pember teaches a center 1 stage (see figure 3) supported in a frame 2 by a pair of double torsion flexures 4 where the frame is supported by a double torsion members 6b. The frame inherently includes a main body, end bar, and support member at 45 degree (non-perpendicular).

(Office Action 5/10/2005, pg. 2)

Applicants respectfully submit that amended claim 23 is not anticipated by Pember under 35 U.S.C. § 102(b). Applicants respectfully submit that Pember does not disclose the following limitations of amended claim 23:
(Amended claim 23).

a first blade coupled to a bottom of the central stage, the first blade residing beneath a bottom plane of the central stage and extending perpendicularly from the bottom plane of the central stage;

a second blade coupled to a bottom of the movable stage, the second blade residing beneath a bottom plane of the movable stage and extending perpendicularly from the bottom plane of the central stage.

Claim 24 has been canceled.

Given that claims 30 and 31 depend directly or indirectly from amended claim 23, applicants respectfully submit that claims 30 and 31 are not anticipated by Pember under 35 U.S.C. § 102(b).

The Examiner has rejected claims 25-29 under 35 U.S.C. § 103(a) as being unpatentable over Pember and Yamada. The Examiner has stated the following:

Pember teaches every aspect of the invention except the first and second blades on the stage and frame with a constant gap between the blades in an actuation direction. Yamada teaches every aspect of the invention except the non-perpendicular support body. Yamada teaches the blades on the frame 15a, 15b and stage maintaining a constant gap to rotate the stage 2. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the micromirror of Pember of with the blades of Yamada to provide a large deflection angle with a low voltage.

(Office Action 5/10/2005, pg. 2)

Claim 26 has been canceled.

Applicants respectfully submit that claims 25 and 27-29 are not unpatenable under 35 U.S.C. § 103(a) in view of Pember and Yamada. Even if Pember and Yamada were combined, the combination would lack the following limitations of parent amended claim 23:

a first blade coupled to a bottom of the central stage, the first blade residing beneath a bottom plane of the central stage and extending perpendicularly from the bottom plane of the central stage;

a second blade coupled to a bottom of the movable stage, the second blade residing beneath a bottom plane of the movable stage and extending perpendicularly from the bottom plane of the central stage.

(Amended claim 23).

The Examiner has rejected claim 33 under 35 U.S.C. § 103(a) as being unpatentable over Pember, Yamada, and Knipe. The Examiner has stated the following:

Pember and Yamada teach every aspect of the invention except the torsion springs being a pair of torsion springs parallel. Knipe teaches the equivalence of the torsion springs being parallel, non parallel, or a single beam (figures 3, 4, 5). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Pember and Yamada with the parallel torsion springs of Knipe to provide sufficient restoring forces to the frame and stage, and because it is within the ordinary skill in the art to choose between known equivalents.

(Office Action 5/10/2005, pg. 3)

Claim 33 has been canceled.

Applicants respectfully submit that new claims 120 and 121 are not unpatentable under 35 U.S.C. § 103(a) in view of Pember, Yamada, and Knipe. Even if Pember, Yamada, and Knipe were combined, the combination would lack the following limitations of parent amended claim 23:

a first blade coupled to a bottom of the central stage, the first blade residing beneath a bottom plane of the central stage and extending perpendicularly from the bottom plane of the central stage;

a second blade coupled to a bottom of the movable stage, the second blade residing beneath a bottom plane of the movable stage and extending perpendicularly from the bottom plane of the central stage.

(Amended claim 23).

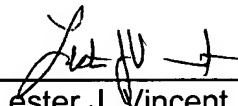
For the foregoing reasons, applicants respectfully submit that the applicable objections and rejections have been overcome.

If there are any additional charges, please charge them to our Deposit Account No. 02-2666.

Respectfully submitted,

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